

# EXHIBIT D

HP Officejet 6310

Log for

Personal Printer/Fax/Copier/Scanner

Sep 03 2008 4:11PM

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Last Transaction

Date	Time	Type	Station ID	Duration	Pages	Result
Sep 3	4:09PM	Fax Sent	12143579870	1:28	3	OK

research faxed to  
Union 12/3

Dr Shannon Schrader

1. Hypoglycemic - not eating for 48 hrs  
loss of appetite
2. Reflux Disease causing stomach irritation  
and increasing the absorption of Alcohol
3. Small stature causes higher levels of  
Alcohol with slower metabolism.
4. Mouth was affected
5. Elevated Liver enzymes with no known  
cause - work up on liver deposits of Alcohol  
metabolism

~~4/10/08 Blood work test~~

~~Diabetic + hypoglycemia, Hepatitis~~

~~9/16/08 2-3 hr. intense physical~~

ALL Chris - from Sheryl  
Gerhardt

regarding officer training and instrument maintenance and calibration.

Research indicates that breath tests can vary at least 15% from actual blood alcohol concentration. An estimated 23% of individuals tested will have a BAC reading higher than their true BAC. Police in Victoria, Australia use breathalyzers that give a recognized 20 percent tolerance on readings. Noel Ashby, former Victoria Police Assistant Commissioner (Traffic & Transport), claims that this tolerance is to allow for different body types.<sup>[7]</sup>

### Calibration

Most handheld breathalyzers use a silicon oxide sensor to determine the blood alcohol concentration. Without proper software calibration, the accuracy of these sensors degrades over time and with repeated use. The calibration process aims to focus the sensor's ability to detect an accurate reading. New advances in breathalyzer design allow some models to self-calibrate or easily replace the sensor module without the need to send the unit to a calibration lab.

### Non-specific analysis

One major problem with older breathalyzers is non-specificity: the machines not only identify the ethyl alcohol (or ethanol) found in alcoholic beverages, but also other substances similar in molecular structure or reactivity.

The oldest breathalyzer models pass breath through a solution of potassium dichromate, which oxidizes ethanol into acetic acid, changing color in the process. A monochromatic light beam is passed through this sample, and a detector records the change in intensity and, hence, the change in color, which is used to calculate the percent alcohol in the breath. However, since potassium dichromate is a strong oxidizer, numerous alcohol groups can be oxidized by it, producing false positives.

Infrared-based breathalyzers project an infrared beam of radiation through the captured breath in the sample chamber and detect the absorbance of the compound as a function of the wavelength of the beam, producing an absorbance spectrum that can be used to identify the compound, as the absorbance is due to the harmonic vibration and stretching of specific bonds in the molecule at specific wavelengths (see infrared spectroscopy). The characteristic bond of alcohols in infrared is the O-H bond, which gives a strong absorbance at a short wavelength. The more light is absorbed by compounds containing the alcohol group, the less reaches the detector on the other side—and the higher the reading. Other groups, most notably aromatic rings and carboxylic acids can give similar absorbance readings.<sup>[8]</sup>

### Interfering compounds

Some natural and volatile interfering compounds do exist, however. For example, the National Highway Traffic Safety Administration (NHTSA) has found that dieters and diabetics may have acetone levels hundreds and even thousand of times higher than those in others. Acetone is one of the many substances that can be falsely identified as ethyl alcohol by some breath machines. However, new machines like the Draeger Breathalyzer use technology that filters out substances like acetone.

A study in Spain showed that metered-dose inhalers (MDIs) used in asthma treatment are also a cause of false positives in breath machines.

Substances in the environment can also lead to false BAC readings. For example, methyl tert-butyl ether (MTBE), a common gasoline additive, has been alleged anecdotally to cause false positives in persons exposed to it. Tests have shown this to be true for older machines; however, newer machines detect this interference and compensate for it.<sup>[9]</sup> Any number of other products found in the environment or workplace can also cause erroneous BAC results. These include compounds found in lacquer, paint remover, celluloid, gasoline, and cleaning fluids, especially ethers, alcohols, and other volatile compounds.

### Homeostatic variables

Breathalyzers assume that the subject being tested has a 2100-to-1 "partition ratio"<sup>[10]</sup> in converting alcohol measured in the breath to estimates of alcohol in the blood. If the instrument estimates the BAC, then it measures weight of alcohol to volume of breath, so it will effectively measure grams of alcohol per 2100 ml of breath given. This measure is in direct proportion to the amount of grams of alcohol to every 100 ml of blood. Therefore, there is a 2100 to 1 ratio of alcohol in blood to alcohol in breath. However, this assumed "partition ratio" varies from 1300:1 to 3100:1 or wider among individuals and within a given individual over time. Assuming a true (and legal) blood-alcohol concentration of .07%, for example, a person with a partition ratio of 1500:1 would have a breath test reading of .10%—over the legal limit.

Most individuals do, in fact, have a 2100-to-1 partition ratio in accordance with William Henry's Law (1803), which states that

regarding officer training and instrument maintenance and calibration.

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## Homeostatic variables

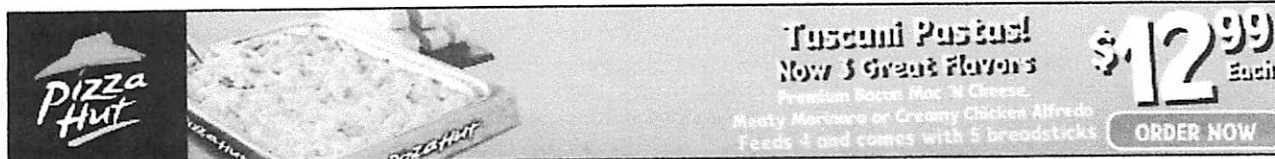
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## Extreme Dieting May Lead to False-Positive Breath Tests

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According to Researchers at Sweden's Karolinska University Hospital sober people on extremely low calorie diets can register false-positive readings on breath tests.

The researchers say that when fat is broken down very quickly the body produces acetone, acetoacetate and beta-hydroxybutyrate which can convert to an alcohol called isopropanol which cannot be distinguished from ethanol by some devices.

Police say that for their purposes it is not a problem as secondary testing on an evidential instrument can distinguish between the two. They cannot discount, however, the possibility that alcohol interlock devices may give false-positives.

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the machines don't always differentiate between isopropanol and ethanol?  
wow!

by: [DarkAngelJG](#) ★★★★★

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### A new defense

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by: [John E Angel](#) ★★

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### Hmm

I swear i wasn't drinking officer...honest...i'm just on a diet.